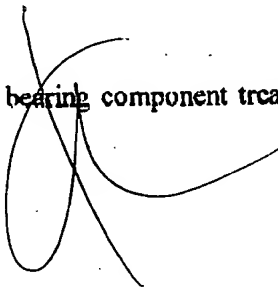


Claims

1. Use of non-corrosive hard particle abrasion to treat a rolling element bearing component, the hard particle abrasion including the steps of:

immersing the bearing component in a receptacle containing hard particles; and

agitating the bearing component and/or hard particles to produce relative movement therebetween and to improve the surface topography of the component.
 2. Use according to claim 1, wherein the hard particle abrasion is performed for between 10 minutes and 1 hour.
 3. Use according to claim 1 or 2, wherein the relative movement is produced by rotating the component in one direction while the receptacle is rotated in the opposite direction.
 4. Use according to any one of claims 1 to 3, wherein the hard particles comprise alumina.
 5. A rolling element bearing component treated in accordance with any one of the preceding claims.
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6. A rolling element bearing component according to claim 5 wherein the surface finish of the component is improved from around $0.13\text{ }\mu\text{m}$ to around $0.07\text{ }\mu\text{m}$.

7. A rolling element bearing component according to claim 5 or claim 6, wherein the compressive stress in the surface of the component is increased by between 200 MPa and 500 MPa.

8. A rolling element bearing component according to any one of claims 5 to 7, wherein the rolling contact fatigue life of the component is significantly enhanced.

9. A rolling element bearing component according to any of claims 5 to 8, wherein a surface finish on the component is produced which requires no further machining.

10. A rolling element bearing comprising one or more components according to any one of claims 5 to 9.

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